UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,246	01/04/2002	Suk H. Cho	09143-018001	7295

26191 7590 04/01/2003

FISH & RICHARDSON P.C.
3300 DAIN RASCHER PLAZA
60 SOUTH SIXTH STREET
MINNEAPOLIS, MN 55402

EXAMINER
FLOOD, MICHELE C

ART UNIT	PAPER NUMBER
1654	9

DATE MAILED: 04/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
10/039,246	Cho
Examiner	**Art Unit**
Michele Flood	1654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Dec 26, 2002 .

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-28 is/are pending in the application.

4a) Of the above, claim(s) 22-28 is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-21 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4
4) ☒ Interview Summary (PTO-413) Paper No(s). 7 & 8
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election/Restriction

Applicant's election without traverse of Group I, Claims 1-21, in Paper No. 6 is acknowledged.

Claims 1-21 are under examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 6-10, 12 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5, 6, 9, 10, 12 and 13 are rendered vague and definite by the phrase "wherein 'X' mg to 'Y' mg of said dietary supplement is said ' Z (ingredient)'" because it is unclear as to what the claimed amounts of the ingredients are related. For example, if the total amount of the weight of the claimed dietary supplement is not known, then the phrase "wherein 'X' mg to 'Y' mg of said dietary supplement is said ' Z (ingredient)'" is deemed meaningless and non-limiting since there is no weight value to compare the amounts and formulate a weight percentage of meaning.

Therefore, the metes and bounds of the claimed invention can not be ascertained. The lack of clarity makes the claims very ambiguous.

Claims 7 and 8 are rendered indefinite by the phrases "wherein said ginger component comprises ginger oil"; and, "wherein said ginger component is gingerroot or gingerroot extract"; and "wherein said ginger component, respectively, because it is uncertain as to how a ginger component "comprises" either ginger oil, gingerroot, or a gingerroot extract. Applicant may overcome the rejection by replacing "comprises" with is.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 11, 14 and 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Gooberman (U).

Applicant claims a dietary supplement comprising an aminosaccharide, a ginger component, and an enzyme. Applicant further claims the dietary supplement of claim 1, wherein said aminosaccharide is an aminosaccharide salt. Applicant further claims the dietary supplement of claim 1, wherein said aminosaccharide is glucosamine. Applicant further claims the dietary

supplement of claim 1, wherein said aminosaccharide is glucosamine hydrochloride, glucosamine sulfate, glucosamine phosphate, glucosamine lactate, or glucosamine dodecanoate. Applicant further claims the dietary supplement of claim 1, wherein 300 mg to 3000 mg of said dietary supplement is said aminosaccharide. Applicant further claims the dietary supplement of claim 1, wherein 1000 mg to 2000 mg of said dietary supplement is said aminosaccharide. Applicant further claims the dietary supplement of claim 1, wherein said enzyme is selected from the group consisting of bromelain, papain, fungal proteases, acid stable proteases, neutral stable proteases, and alkaline stable proteases. Applicant further claims the dietary supplement of claim 1, wherein said dietary supplement is in the form of a tablet, a powder, or a liquid. Applicant further claims the dietary supplement of claim 1, wherein said dietary supplement reduces pain, stiffness, or inflammation in a mammal. Applicant further claims the dietary supplement of claim 1, wherein said administration of said dietary supplement to a mammal reduces pain, stiffness, or inflammation in said mammal within four hours of said administration. Applicant further claims the dietary supplement of claim 1, wherein daily administration of said dietary supplement to a mammal for at least two weeks reduces pain, stiffness, or inflammation in said mammal.

The referenced product, 'Ultimate Joint Repair Formula', was found at **http://thehealthstore.net/en-us/p_2.html.** In an interview with Dr. Gooberman on March 25, 2003, Gooberman stated that he formulated the referenced product and that it has been in public use for four to five years for use by humans. The 'Ultimate Joint Repair Formula' taught by Gooberman comprises 1500 mg of glucosamine sulfate and 420 mg of a proprietary blend of the

following ingredients: bromelain (80+ GDU); *Boswellia serrata* extract (40%); tumeric and ginger. Gooberman further teaches that the referenced product is used in the treatment of arthritic conditions for pain, inflammation, and joint repair. Gooberman further teaches, "In severe joint repair situations: Start with three capsules taken three times per day for one month, then taper off and seek level at which you feel continued relief."

With regard to the limitations of Claim 20 wherein Applicant claims that the administration of the claim-designated dietary supplement reduces pain, stiffness, or inflammation in a mammal within four hours of administration, it is noted that the reference does not teach that the composition can be used in the manner instantly claimed, however, the intended use of the claimed composition does not patentably distinguish the composition, *per se*, since such undisclosed use is inherent in the reference composition. In order to be limiting, the intended use must create a structural difference between the claimed composition and the prior art composition. In the instant case, the intended use does not create a structural difference, thus the intended use is not limiting.

The reference anticipates the claimed subject matter.

Claims 1-4, 7, 9, 11, 12, 14 and 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Craig Kisciras (V).

Applicant's claimed invention of Claims 1-4, 11, 14 and 19-21 was set forth above. Applicant further claims the dietary supplement of claim 1, wherein said ginger component

comprises ginger oil. Applicant further claims the dietary supplement of claim 1, wherein 50 mg to 10 mg of said dietary supplement is said ginger component. Applicant further claims the dietary supplement of claim 1, wherein 50 mg to 10 mg of said dietary supplement is enzyme.

The referenced product, 'NutriFlex for Dogs and Cats'(tablets), was found at **http://www.rxvitamins.com/pets/nutriflex.asp.** In an interview with Craig Kisciras, President of RxVitamins™ for Pets, on March 26, 2003, Kisciras stated that he developed the referenced product and that it has been in public use since 1997. 'NutriFlex for Dogs and Cats' taught by Kisciras comprises 250 mg of glucosamine sulfate, 75 mg of ginger (standardized *Zingiber officinale* supplying 4% volatile oils), and 75 mg of bromelain (standardized proteolytic enzyme supplying 1200 GDU per gram). Kisciras further stated that the referenced product has chrondroprotective activity. For example, 'NutriFlex for Dogs and Cats' is taught as providing ingredients that are "used by the entire body, particularly joint cartilage, tendons and ligaments."

With regard to the limitations of Claims 20 and 21 wherein Applicant claims that the administration of the claim-designated dietary supplement reduces pain, stiffness, or inflammation in a mammal within four hours of administration and wherein daily administration of the claim-designated dietary supplement to a mammal for at least two weeks reduces pain, stiffness or inflammation in a mammal, the claimed limitations are considered to be inherent to the referenced composition since the ingredients and the amounts of the ingredients comprising the 'NutriFlex for Dogs and Cats' taught by Kisciras are one and the same as instantly claimed by Applicant. Thus, although the reference does not teach that the composition can be used in the manner

instantly claimed, however, the intended use of the claimed composition does not patentably distinguish the composition, per se, since such undisclosed use is inherent in the reference composition. In order to be limiting, the intended use must create a structural difference between the claimed composition and the prior art composition. In the instant case, the intended use does not create a structural difference, thus the intended use is not limiting.

The reference anticipates the claimed subject matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 8, 10, 11 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gooberman (U) and Kisciras (V) in view of Rose et al. (A).

Applicant's claimed invention of Claims 1, 9 and 19-21 was set forth above. Applicant further claims the dietary supplement of claim 1, wherein said ginger component comprises gingerroot or gingerroot extract. Applicant further claims the dietary supplement of claim 1, wherein 100 mg to 500 mg of said dietary supplement is said ginger component.

The teachings of Gooberman and Kisciras are set forth above. Neither Gooberman nor Kisciras teach a dietary supplement wherein the ginger component comprises gingerroot or gingerroot and wherein 100 mg to 500 mg of said dietary supplement is ginger component. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to either add gingerroot or gingerroot extract to the dietary supplement taught by Gooberman or Kisciras or substitute the ginger comprising the dietary supplement taught by either Gooberman or Kisciras for either gingerroot or gingerroot extract to provide the claimed dietary supplement because Rose teaches a composition when administered to an animal arrests the inflammatory response in affected tissues and facilitates the repair and maintenance of damaged tissues in the joints of vertebrates. The composition taught by Rose comprises glucosamine and its salts in an amount of 50 mg to about 2000 mg per 25 pounds of body weight (see Column 5, lines 5-18 and lines 23-27; and ginger or gingerroot in an amount of 50 mg to about 220 mg per 25 pounds of body weight (see Column 6, lines 24-28). At the time the invention was made, one of ordinary skill in the art would have had a reasonable expectation of success to add and/or substitute the gingerroot taught by Rose to the composition taught by either Gooberman or Kisciras to provide the claimed dietary supplement because Rose teaches, in Column 6, lines 6-11, teaches that gingerroot "functions as a circulatory stimulant to relax peripheral blood vessels thus serving the dual beneficial roles of removing detrimental inflammatory by-products such as free radicals and transporting an ample supply of antioxidants and metabolic precursor building blocks of repair." Moreover, it would have been obvious to one

of ordinary skill in the art at the time the claimed invention was made to combine the instant ingredients for their known benefit since each is well known in the art for their claimed purpose and for the following reasons. This rejection is based on the well established proposition of patent law that no invention resides in combining old ingredients of known properties where the results obtained thereby are no more than the additive effect of the ingredients, *In re Sussman,* 1943 C.D. 518. Applicants invention is predicated on an unexpected result, which typically involves synergism, an unpredictable phenomenon, highly dependent upon specific proportions and/or amounts of particular ingredients. Any mixture of the components embraced by the claims which does not exhibit an unexpected result (e.g., synergism) is therefore *ipso facto* unpatentable.

It also would have been obvious to one of ordinary skill in the art to optimize the amounts of the ginger component comprising the dietary supplement taught by Gooberman or Kisciras to provide the claimed dietary supplement because at the time the invention was made ginger components, such as gingerroot or gingerroot extract or ginger, were known to have beneficial functional effects, as evidenced by the teachings of Rose as set forth immediately above. At the time the invention was made, one of ordinary skill in the art would have been motivated and one of ordinary skill in the art would have had a reasonable expectation of success to add a ginger component, such as the instantly claimed ginger, gingerroot or gingerroot extract, in the amounts instantly claimed and to adjust the amount of the ginger component comprising the prior art references to provide the claimed invention because Rose teaches, in Column 6, lines 24-28, "the phytochemical included in a composition for treating joint disorders is ginger or ginger root, the

daily dose for vertebrates is preferably from about 50 mg to about 220 mg of ginger or ginger root per 25 pounds of body weight." Thus, it would have been merely a matter of judicious selection to one of ordinary skill in the art at the time the invention was made to modify the amounts of the ingredients used in the claimed composition because it would have been well in the purview of one of ordinary skill in the art practicing the invention to select result-effect amounts of the claimed ingredients to provide a composition with the claimed functional effect for reducing pain, stiffness, or inflammation in a mammal via oral administration. Hence, the claimed invention is no more than the routine optimization of a result effect variable.

Accordingly, the instant claims, in the range of proportions where no unexpected results are observed, would have been obvious to one of ordinary skill having the above cited references before him.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Claims 1, 11, 15 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gooberman (U) and Kisciras (V) in view of Balch et al. (AT), American Biologics (W), Marlyn Nutraceuticals (X and U1), and Wood et al. (V1).

Applicant's claimed invention of Claims 1, 11, 13 and 19-21 was set forth above. Applicant further claims the dietary supplement of claim 1, wherein 1000 mg to 2000 mg of said dietary supplement is said enzyme, and wherein said dietary supplement comprises at least two different enzymes.

The teachings of Gooberman and Kisciras are set forth above. Neither Gooberman nor Kisciras teach a dietary supplement wherein 1000 mg to 2000 mg of the dietary supplement is an enzyme and wherein the dietary supplement comprises at least two different enzymes. However, it would have been obvious to one of ordinary skill in the art to modify the compositions taught by Gooberman and Kisciras to provide a dietary supplement wherein 1000 mg to 2000 mg of the dietary supplement is an enzyme and wherein the dietary supplement comprises at least two different enzymes because at the time the invention was made it was known in the art the beneficial functional effect that multiple enzymes in the claimed amounts have in the making of a dietary supplement, as evidenced by the teachings of Balch, and as further evidenced by the teachings of American Biologics, Marlyn Nutraceuticals and Wood. For instance, on page 48, Column 2, lines 29-45, Balch teaches compositions comprising a combination of enzymes. Firstly, Balch teaches INFLAZYME FORTE™ from American Biologics, which is a formula of "a combination of enzymes and antioxidants for people requiring supplemental digestive enzymes to aid in the breakdown of proteins, fats, and carbohydrates. It may also be helpful for chronic or acute inflammation." As evidenced by the teachings of American Biologics, INFLAZYME FORTE™ comprises pancreatin (800 mg), bromelain (125 mg), papain (120 mg), trypsin (120

mg), chymotrypsin (2.5 mg), lipase (35 mg), rutin (flavonoid), zinc, superoxidase dismutase (100 units), catalase (50 IU), and cysteine. INFLAZYME FORTE™ is taught as a combination of digestive and anti-inflammatory enzymes, with antioxidants and metabolic cofactors: "The enzymes in **Inflazyme Forte™** help degrade and otherwise disarm macromolecular components of the inflammatory cascades, while the antioxidants and cofactors help dampen the free radicals produced during the course of acute or chronic inflammation." American Biologics suggests an intake of three to six tablets, three times per day for the referenced dietary supplement. Secondly, Balch teaches Wobenzym N from Marlyn Nutraceuticals, which is combination of enzymes. As evidenced by the teachings of Marlyn Nutraceuticals, Inc., Wobenzym N comprises pancreatin (100 mg), trypsin (24 mg), chymotrypsin (1 mg), bromelain (45 mg), papain (60 mg), and rutosid. As evidenced by the teachings of Wood, the combination of the enzymes comprising Wobenzym N show sequential synergy in inflammatory processes. Marlyn Nutraceuticals suggests three tablets of the referenced dietary supplement, two to three times daily, 45 minutes before meals. At the time the invention was made, one of ordinary skill in the art would have been motivated and one would have had a reasonable expectation of success to add the multiple enzyme formulations taught by Balch, and as evidenced by the teachings of American Biologics, Marlyn Nutraceuticals and Wood, to the composition taught by Gooberman and Kisciras, and to optimize the amounts of the enzymes contained therein the resulting dietary supplement to provide the claimed invention because Balch, American Biologics, Marlyn Nutraceuticals and Wood each teach the beneficial anti-inflammatory effects of that their multiple enzyme containing products

exert in mammals, when they are administered within the dosage range as instantly claimed by Applicant. Moreover, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to combine the instant ingredients for their known benefit since each is well known in the art for their claimed purpose and for the following reasons. This rejection is based on the well established proposition of patent law that no invention resides in combining old ingredients of known properties where the results obtained thereby are no more than the additive effect of the ingredients, *In re Sussman,* 1943 C.D. 518. Applicants invention is predicated on an unexpected result, which typically involves synergism, an unpredictable phenomenon, highly dependent upon specific proportions and/or amounts of particular ingredients. Any mixture of the components embraced by the claims which does not exhibit an unexpected result (e.g., synergism) is therefore *ipso facto* unpatentable.

Accordingly, the instant claims, in the range of proportions where no unexpected results are observed, would have been obvious to one of ordinary skill having the above cited references before him.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Claims 1 and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gooberman (U) and Kisciras (V) in view of Haqqi et al. (W1) and Bailey et al. (B).

Applicant's claimed invention of Claim 1 was set forth above. Applicant further claims the dietary supplement of claim 1, wherein said dietary supplement comprises a green tea extract. Applicant further claims the dietary supplement of claim 16, wherein 50 mg to 2000 mg of said dietary supplement is said green tea extract. Applicant further claims the dietary supplement of claim 16, wherein 100 mg to 1000 mg of said dietary supplement is said green tea extract.

The teachings of Gooberman and Kisciras are set forth above. Neither Gooberman nor Kisciras teach a dietary supplement comprising green tea extract. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add green tea extract to either of the dietary supplements taught by Gooberman and Kisciras and to optimize the amounts of the claimed ingredient to provide the claimed dietary supplement because Haqqi and Bailey teach the beneficial functional effects of green tea extract. Firstly, Haqqi teaches a method of administering an antioxidant-rich solution of 0.2% polyphenolic fraction (GTP) extracted from green tea to mice. Haqqi teaches that the oral administration of GTP reduced the incidence of arthritis, reduced the expression of inflammatory mediators such as cyclooxygenase 2, IFN-γ, and tumor necrosis factor α in arthritic joints of GTP-fed mice. Secondly, Bailey teaches isolating caffeine-free catechins and caffeine-free EGCG from green tea leaves, which are useful in formulating therapeutic pharmaceutical and nutraceutical products. In Column 1, lines 9-22, Bailey teaches, "Green tea catechins have been shown to not only prevent against lipid

peroxidation but also scavenge both oxygen and hydroxide radicals", and suggests that the anti-oxidative properties of green tea extract is useful in the treatment of degenerative diseases, such as arthritis. At the time the invention was made, one of ordinary skill in the art would have been motivated and one would have had a reasonable expectation of success to add the green tea extract to the compositions taught by Gooberman and Kisciras and to optimize the amounts of the claimed green tea extract to provide the claimed dietary supplement because Haqqi suggests that green tea and its polyphenols may prove to be a useful supplement/addition with other agents for the treatment of arthritis and other autoimmune diseases, on page 4529, Column 1, lines 39-44; and Bailey suggests that the highly purified caffeine-free green tea catechins of his invention are useful in the making of pharmaceutical and nutraceutical products and provide a natural source of antioxidants, in Column 1 bridging Column 2, lines 1-37. Thus, it would have been merely a matter of judicious selection to one of ordinary skill in the art at the time the invention was made to modify the amounts of the ingredients used in the claimed composition because it would have been well in the purview of one of ordinary skill in the art practicing the invention to select result-effect amounts of the claimed ingredients to provide a composition with the claimed functional effect to reduce pain, stiffness or inflammation in a mammal. Hence, the claimed invention is no more than the routine optimization of a result effect variable.

Moreover, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to combine the instant ingredients for their known benefit since each is well known in the art for their claimed purpose and for the following reasons. This rejection is

based on the well established proposition of patent law that no invention resides in combining old ingredients of known properties where the results obtained thereby are no more than the additive effect of the ingredients, *In re Sussman,* 1943 C.D. 518. Applicants invention is predicated on an unexpected result, which typically involves synergism, an unpredictable phenomenon, highly dependent upon specific proportions and/or amounts of particular ingredients. Any mixture of the components embraced by the claims which does not exhibit an unexpected result (e.g., synergism) is therefore *ipso facto* unpatentable.

Accordingly, the instant claims, in the range of proportions where no unexpected results are observed, would have been obvious to one of ordinary skill having the above cited references before him.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michele Flood whose telephone number is (703) 308-9432. The examiner can normally be reached on Monday through Friday from 7:15 am to 3:45 pm. Any inquiry of a general nature or relating to the status of this application should be directed to the Group 1600 receptionist whose telephone number is (703) 308-0196 or the Supervisory Patent Examiner, Brenda Brumback whose telephone number is (703) 306-3220.

MICHELE FLOOD
PATENT EXAMINER

Michele C. Flood

MCF

April 1, 2003